

IN THE CLAIMS:

The status of each claim that has been introduced in the above-referenced application is identified in the ensuing listing of the claims. This listing of the claims replaces all previously submitted claims listings.

1-9. (Canceled)

10. (Previously presented) A semiconductor device assembly comprising:
a substrate;
at least one semiconductor device secured to the substrate; and
a polymeric film separate from the substrate and positioned at least partially over at least one of the substrate and the at least one semiconductor device, the polymeric film carrying at least one conductive trace in communication with at least one of a terminal of the substrate and a bond pad of the at least one semiconductor device, the polymeric film and the at least one conductive trace extending through a plane of the substrate.

11. (Previously presented) The assembly of claim 10, wherein the polymeric film is at least partially superimposed over the at least one semiconductor device.

12. (Previously presented) The assembly of claim 11, wherein the at least one conductive trace at least partially establishes communication between the bond pad of the at least one semiconductor device and a corresponding terminal of the substrate.

13. (Previously presented) The assembly of claim 12, wherein communication between the bond pad and the corresponding terminal is further established by at least one discrete conductive element positioned electrically between the at least one conductive trace and at least one of the bond pad and the corresponding terminal.

14. (Previously presented) The assembly of claim 10, comprising a plurality of semiconductor devices at different locations on the substrate.

15. (Previously presented) The assembly of claim 14, wherein the polymeric film is secured to the substrate laterally between at least two semiconductor devices of the plurality of semiconductor devices.

16. (Previously presented) The assembly of claim 15, wherein at least one conductive trace carried by the polymeric film at least partially establishes communication between a bond pad of one of the at least two semiconductor devices and a corresponding bond pad of another of the at least two semiconductor devices.

17. (Previously presented) The assembly of claim 16, wherein the at least one conductive trace communicates with a terminal of the substrate which, in turn, communicates with the bond pad.

18. (Previously presented) The assembly of claim 17, further comprising discrete conductive elements between the terminal and each of the at least one conductive trace and the bond pad.

19. (Previously presented) The assembly of claim 10, wherein the substrate comprises at most four conductive layers.

20. (Previously presented) The assembly of claim 10, wherein the at least one conductive trace provides a more direct electrical route than any conductive trace carried by the substrate.

21. (Previously presented) The assembly of claim 16, wherein another bond pad of the at least one semiconductor device is in communication with at least a terminal of the substrate by way of another conductive trace carried by the polymeric film.

22. (canceled)

23. (Currently amended) The assembly of claim 10, wherein opposite ends of the at least one conductive trace are electrically exposed at opposite ~~sides~~surfaces of the polymeric film.

24. (Currently amended) The assembly of claim 10, wherein opposite ends of the at least one conductive trace are electrically exposed at the same ~~side~~surface of the polymeric film.

25. (Currently amended) A carrier for at least one semiconductor device, comprising:
a substrate carrying at least one terminal and at least one conductive trace; and
a polymeric film separate from the substrate, positioned at least partially over the substrate, and carrying at least one additional conductive trace configured to provide a more direct electrical route from a location of the substrate adjacent to a first edge of the routing element to a location of the substrate adjacent to a second edge of the routing element than could be provided by conductive traces carried by the substrate.

26. (Previously presented) The carrier of claim 25, wherein the substrate comprises at most four conductive layers.

27. (Previously presented) The carrier of claim 25, wherein the polymeric film is at least partially adhered to the substrate.

28. (Previously presented) The carrier of claim 27, wherein the at least one additional conductive trace at least partially establishes communication between the at least one terminal and another terminal carried upon the substrate.

29. (Previously presented) The carrier of claim 28, wherein communication between the at least one terminal and the another terminal is further established by way of at least one discrete conductive element that electrically connects the at least one additional conductive trace to at least one of the at least one terminal and the another terminal.

30. (Previously presented) The carrier of claim 25, wherein the polymeric film is configured to be disposed at least partially over the at least one semiconductor device carried by the substrate.

31. (Previously presented) The carrier of claim 25, wherein the at least one additional conductive trace carried upon the polymeric film is configured to at least partially establish communication between the at least one terminal and a corresponding bond pad of the at least one semiconductor device.

32. (Previously presented) The carrier of claim 31, wherein communication between the at least one terminal and the corresponding bond pad is further established by way of at least one discrete conductive element electrically connecting the at least one additional conductive trace to at least one of the at least one terminal and the corresponding bond pad.

33. (Previously presented) The carrier of claim 31, wherein the at least one additional conductive trace carried upon the polymeric film is configured to at least partially establish communication between a bond pad of the at least one semiconductor device and a corresponding bond pad of at least another semiconductor device carried by the substrate.

34. (Previously presented) The carrier of claim 33, wherein communication between the bond pad and the corresponding bond pad is further established by way of at least one discrete conductive element electrically connecting the at least one additional conductive trace and at least one of the bond pad and the corresponding bond pad.

35. (Currently amended) The carrier of claim 25, wherein the substrate includes at least one aperture formed therethrough for receiving a portion of the polymeric film and the at least one additional conductive trace to facilitate positioning of different portions of the polymeric film over portions of opposite ~~sides~~surfaces of the substrate.

36. (Currently amended) The carrier of claim 35, wherein opposite ends of the at least one additional conductive trace are electrically exposed at opposite ~~sides~~surfaces of the polymeric film.

37. (Currently amended) The carrier of claim 35, wherein opposite ends of the at least one additional conductive trace are electrically exposed at the same ~~side~~surface of the polymeric film.

38-58. (canceled)

59. (Currently amended) A semiconductor device assembly, comprising:
a substrate carrying a first plurality of conductive traces;
a routing element separate from the substrate, ~~and carrying a second plurality of conductive~~
traces positioned at least partially on the substrate, and carrying a second plurality of
conductive traces, each conductive trace of the second plurality of conductive traces being
configured to provide a more direct electrical route from a location of the substrate
adjacent to a first edge of the routing element to a location of the substrate adjacent to a
second edge of the routing element than could be provided by conductive traces carried
by the substrate; and
at least one semiconductor device secured to the substrate.

60. (Previously presented) The assembly of claim 59, wherein the routing element is
at least partially superimposed over the at least one semiconductor device.

61. (Previously presented) The assembly of claim 60, wherein at least one conductive
trace of the second plurality of conductive traces at least partially establishes electrical
communication between a bond pad of the at least one semiconductor device and a
corresponding terminal of the substrate.

62. (Previously presented) The assembly of claim 61, wherein communication
between the bond pad and the corresponding terminal is further established by at least one
discrete conductive element positioned electrically between the at least one conductive trace and
at least one of the bond pad and the corresponding terminal.

63. (Previously presented) The assembly of claim 59, comprising a plurality of
semiconductor devices at different locations on the substrate.

64. (Previously presented) The assembly of claim 63, wherein the routing element is secured to the substrate laterally between at least two semiconductor devices of the plurality of semiconductor devices.

65. (Previously presented) The assembly of claim 64, wherein at least one conductive trace of the second plurality of conductive traces at least partially establishes communication between a bond pad of one of the at least two semiconductor devices and a corresponding bond pad of another of the at least two semiconductor devices.

66. (Previously presented) The assembly of claim 65, wherein the at least one conductive trace communicates with a terminal of the substrate which, in turn, communicates with the bond pad.

67. (Previously presented) The assembly of claim 66, further comprising discrete conductive elements between the terminal and each of the at least one conductive trace and the bond pad.

68. (Previously presented) The assembly of claim 59, wherein the substrate comprises at most four conductive layers.

69. (Canceled)

70. (Previously presented) The assembly of claim 65, wherein another bond pad of the at least one semiconductor device is in communication with at least a terminal of the substrate by way of another conductive trace of the second plurality of conductive traces.

71. (Previously presented) The assembly of claim 59, wherein the routing element and the second plurality of conductive traces extends through a plane of the substrate.

72. (Currently amended) The assembly of claim 71, wherein opposite ends of at least one conductive trace of the second plurality of conductive traces are electrically exposed at opposite ~~sides~~surfaces of the routing element.

73. (Currently amended) The assembly of claim 71, wherein opposite ends of at least one conductive trace of the second plurality of conductive traces are electrically exposed at the same ~~side~~surface of the routing element.

74. (Currently amended) A semiconductor device assembly, comprising:
a substrate carrying a first plurality of conductive traces;
a routing element carrying a second plurality of conductive traces positioned at least partially on the substrate; and
a plurality of semiconductor devices secured to the substrate at different locations thereon, at least two semiconductor devices of the plurality of semiconductor devices being located adjacent to a different edge of the routing element.

75. (Previously presented) The assembly of claim 74, wherein the routing element is secured to the substrate laterally between at least two semiconductor devices of the plurality of semiconductor devices.

76. (Previously presented) The assembly of claim 75, wherein at least one conductive trace of the second plurality of conductive traces at least partially establishes communication between a bond pad of one of the at least two semiconductor devices and a corresponding bond pad of another of the at least two semiconductor devices.

77. (Previously presented) The assembly of claim 76, wherein the at least one conductive trace communicates with a terminal of the substrate which, in turn, communicates with the bond pad.

78. (Previously presented) The assembly of claim 77, further comprising discrete conductive elements between the terminal and each of the at least one conductive trace and the bond pad.

79. (Previously presented) The assembly of claim 76, wherein another bond pad of the at least one semiconductor device is in communication with at least a terminal of the substrate by way of another conductive trace of the second plurality of conductive traces.

80. (Currently amended) A semiconductor device assembly, comprising:
a substrate carrying a first plurality of conductive traces, the substrate comprising, at most, four conductive layers;
a routing element ~~carrying a second plurality of conductive traces~~ positioned at least partially on the substrate and carrying a second plurality of conductive traces, each of the second plurality of conductive traces being configured to provide a more direct electrical route from a location of the substrate adjacent to a first edge of the routing element to a location of the substrate adjacent to a second edge of the routing element than could be provided by conductive traces carried by the substrate; and
at least one semiconductor device secured to the substrate.

81. (Currently amended) The assembly of claim 80, wherein the second plurality of conductive traces of the routing element ~~provide a more direct electrical route than any conductive trace carried by the substrate~~ extend at least partially over the at least one semiconductor device.

82. (Previously presented) The assembly of claim 80, wherein the routing element and the second plurality of conductive traces extends through a plane of the substrate.

83. (Currently amended) The assembly of claim 82, wherein opposite ends of at least one conductive trace of the second plurality of conductive traces are electrically exposed at opposite ~~side~~surfaces of the routing element.

84. (Previously presented) A semiconductor device assembly comprising:
a substrate;
at least one semiconductor device secured to the substrate; and
a polymeric film separate from the substrate, at least partially superimposed over the at least one semiconductor device, and positioned at least partially over at least one of the substrate and the at least one semiconductor device, the polymeric film carrying at least one conductive trace in communication with at least one of a terminal of the substrate and a bond pad of the at least one semiconductor device.

85. (Previously presented) the assembly of claim 84, wherein the at least one conductive trace at least partially establishes communication between the bond pad of the at least one semiconductor device and a corresponding terminal of the substrate.

86. (Previously presented) The assembly of claim 85, wherein communication between the bond pad and the corresponding terminal is further established by at least one discrete conductive element positioned electrically between the at least one conductive trace and at least one of the bond pad and the corresponding terminal.

87. (Previously presented) The assembly of claim 84, comprising a plurality of semiconductor devices at different locations on the substrate.

88. (Previously presented) The assembly of claim 87, wherein the polymeric film is secured to the substrate laterally between at least two semiconductor devices of the plurality of semiconductor devices.

89. (Previously presented) The assembly of claim 88, wherein at least one conductive trace carried by the polymeric film at least partially establishes communication between a bond pad of one of the at least two semiconductor devices and a corresponding bond pad of another of the at least two semiconductor devices.

90. (Previously presented) The assembly of claim 89, wherein the at least one conductive trace communicates with a terminal of the substrate which, in turn, communicates with the bond pad.

91. (Previously presented) The assembly of claim 90, further comprising discrete conductive elements between the terminal and each of the at least one conductive trace and the bond pad.

92. (Previously presented) The assembly of claim 84, wherein the substrate comprises at most four conductive layers.

93. (Previously presented) The assembly of claim 84, wherein the at least one conductive trace provides a more direct electrical route than any conductive trace carried by the substrate.

94. (Previously presented) The assembly of claim 89, wherein another bond pad of the at least one semiconductor device is in communication with at least a terminal of the substrate by way of another conductive trace carried by the polymeric film.

95. (Previously presented) The assembly of claim 84, wherein the polymeric film and the at least one conductive trace extend through a plane of the substrate.

96. (Currently amended) The assembly of claim 84, wherein opposite ends of the at least one conductive trace are electrically exposed at opposite ~~sides~~surfaces of the polymeric film.

97. (Currently amended) The assembly of claim 84, wherein opposite ends of the at least one conductive trace are electrically exposed at the same ~~side~~surface of the polymeric film.

98. (Previously presented) A semiconductor device assembly comprising:
a substrate;
a plurality of semiconductor devices at different locations on the substrate; and
a polymeric film separate from the substrate, secured to the substrate laterally between at least two semiconductor devices of the plurality of semiconductor devices, and positioned at least partially over at least one of the substrate and the at least one semiconductor device, the polymeric film carrying at least one conductive trace in communication between a bond pad of one of the at least two semiconductor devices and terminal of the substrate, which, in turn, communicates with the bond pad.

99. (Previously presented) The assembly of claim 98, wherein the polymeric film is at least partially superimposed over the at least one semiconductor device.

100. (Previously presented) The assembly of claim 99, wherein the at least one conductive trace at least partially establishes communication between the bond pad of the at least one semiconductor device and a corresponding terminal of the substrate.

101. (Previously presented) The assembly of claim 100, wherein communication between the bond pad and the corresponding terminal is further established by at least one discrete conductive element positioned electrically between the at least one conductive trace and at least one of the bond pad and the corresponding terminal.

102. (Previously presented) The assembly of claim 98, further comprising discrete conductive elements between the terminal and each of the at least one conductive trace and the bond pad.

103. (Previously presented) The assembly of claim 98, wherein the substrate comprises at most four conductive layers.

104. (Previously presented) The assembly of claim 98, wherein the at least one conductive trace provides a more direct electrical route than any conductive trace carried by the substrate.

105. (Previously presented) The assembly of claim 98, wherein another bond pad of the at least one semiconductor device is in communication with at least a terminal of the substrate by way of another conductive trace carried by the polymeric film.

106. (Previously presented) The assembly of claim 98, wherein the polymeric film and the at least one conductive trace extend through a plane of the substrate.

107. (Currently amended) The assembly of claim 98, wherein opposite ends of the at least one conductive trace are electrically exposed at opposite ~~side~~surfaces of the polymeric film.

108. (Currently amended) The assembly of claim 98, wherein opposite ends of the at least one conductive trace are electrically exposed at the same ~~side~~surface of the polymeric film.

109. (Previously presented) A semiconductor device assembly comprising:
a substrate;
comprising a plurality of semiconductor devices at different locations on the substrate; and
a polymeric film separate from the substrate, secured to the substrate laterally between at least two semiconductor devices of the plurality of semiconductor devices, and positioned at least partially over at least one of the substrate and the at least one semiconductor device, the polymeric film carrying at least one conductive trace in communication between a bond pad of one of the at least two semiconductor devices and a corresponding bond pad of another of the at least two semiconductor devices, another bond pad of the at least one semiconductor device in communication with at least a terminal of the substrate by way of another conductive trace carried by the polymeric film.

110. (Previously presented) The assembly of claim 109, wherein the polymeric film is at least partially superimposed over the at least one semiconductor device.

111. (Previously presented) The assembly of claim 110, wherein the at least one conductive trace at least partially establishes communication between the bond pad of the at least one semiconductor device and a corresponding terminal of the substrate.

112. (Previously presented) The assembly of claim 111, wherein communication between the bond pad and the corresponding terminal is further established by at least one discrete conductive element positioned electrically between the at least one conductive trace and at least one of the bond pad and the corresponding terminal.

113. (Previously presented) The assembly of claim 109, wherein the at least one conductive trace communicates with a terminal of the substrate which, in turn, communicates with the bond pad.

114. (Previously presented) The assembly of claim 113, further comprising discrete conductive elements between the terminal and each of the at least one conductive trace and the bond pad.

115. (Previously presented) The assembly of claim 109, wherein the substrate comprises at most four conductive layers.

116. (Previously presented) The assembly of claim 109, wherein the at least one conductive trace provides a more direct electrical route than any conductive trace carried by the substrate.

117. (Previously presented) The assembly of claim 109, wherein the polymeric film and the at least one conductive trace extend through a plane of the substrate

118. (Currently amended) The assembly of claim 109, wherein opposite ends of the at least one conductive trace are electrically exposed at opposite ~~side~~surfaces of the polymeric film.

119. (Currently amended) The assembly of claim 109, wherein opposite ends of the at least one conductive trace are electrically exposed at the same ~~side~~surface of the polymeric film.